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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
JERABEK, KELLY L

ART UNIT	PAPER NUMBER
2612	

John E. Beck
Xerox Corporation
Xerox Square-20A
Rochester, NY 14644

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/737,965	SEEGER ET AL.	
	Examiner	Art Unit	
	Kelly L. Jerabek	2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-20 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-20 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 20 February 2002 is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 5.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Drawings

Figures 1-3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4, 8, 11-12, 15-16, and 20 rejected under 35 U.S.C. 102(e) as being anticipated by Mancuso et al. US 6,618,511.

Re claim 1, Mancuso discloses in figure 1 a digital still camera (100) capable of performing image stitching (col. 7, lines 16-19). The camera (100) includes an autofocus device (104) for capturing a series of images at different focus distances (col. 7, lines 19-23). The camera (100) takes a series of images (fig. 3: 300) and joins them together to form a panoramic image (col. 8, lines 33-36). Figure 21 is a detailed diagram of a picture-stitching device (124) shown in figure 1. The picture-stitching device (124) shown in figure 21 includes a geographic mapping section (416) and an alignment preview section (2104) (col. 13, lines 41-65). Perspective correction is performed in the alignment preview section (2104) by correcting the perspective of the overlap region (2306) of the Previous Picture (2302) to conform with the perspective of the Current Picture (2304) (col. 14, lines 24-67; col. 15, lines 1-32.; fig. 23). Therefore, a perspective correction device (2104) determines a geometric transform to correct the image segments for perspective distortion. Figure 40 is a block diagram of the stitching and blending architecture (2110) of figure 21. It can be seen that an image compositor

is used for compositing a perspective corrected image to which a geometric transform is applied (col. 22, lines 50-57; figs. 40 and 41).

Re claim 2, the input device is an image capture device (camera: 100) capable of autofocusing (104) (col. 7, lines 15-23). The camera is capable of capturing plural images (col. 8, lines 33-36) and compositing an image from plural captured images (col. 22, lines 53-57).

Re claim 3, the camera (100) includes a preview strip for analyzing the images and selecting a segment of the image for the compositor (col. 9, lines 1-24).

Re claim 4, the images are aligned and blended into the Panorama after each frame is acquired (col. 9, lines 19-24). Therefore, the registration of each of the images is identified with respect to one another (images are aligned).

Re claim 8, the camera (100) includes an autofocus/shutter driver and actuator (104) for varying the focus distance (col. 7, lines 15-23). The camera (100) is capable of capturing plural image segments (col. 8, lines 33-36).

Re claim 11, Mancuso discloses a picture stitching camera (100) (col. 7, lines 15-19).

Re claim 12, Mancuso discloses in figure 1 a digital still camera (100) capable of performing image stitching (col. 7, lines 16-19). The camera (100) includes an autofocus device (104) for capturing a series of images at different focus distances (col. 7, lines 19-23). The camera (100) takes a series of images (fig. 3: 300) and joins them together to form a panoramic image (col. 8, lines 33-36). The camera (100) includes a preview strip for analyzing the images (col. 9, lines 1-24). The images are aligned and blended into the Panorama after each frame is acquired (col. 9, lines 19-24). Therefore, the registration of each of the images is determined with respect to the other image segments (images are aligned). The camera (100) is also capable of capturing plural images (col. 8, lines 33-36) and compositing an image from plural captured images (col. 22, lines 53-57).

Re claim 15, Mancuso discloses a picture stitching camera (100) (col. 7, lines 15-19).

Re claim 16, see claim 1.

Re claim 20, Mancuso discloses a picture stitching camera (100) (col. 7, lines 15-19).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 5-7, 13, and 17-19 rejected under 35 U.S.C. 103(a) as being unpatentable over Mancuso in view of Herman et al. US 6,075,905.

Re claim 5, Mancuso discloses all of the limitations of claim 3 above. However, Mancuso fails to explicitly state that the image analyzer is operative to analyze the quality of a region of a captured image and select a segment of the region for the compositor according to the image quality of the segment.

Herman discloses in figure 1 a process for forming a mosaic image. The region selection portion (104) of the process for forming a mosaic image includes the selection of subregions of overlapping source images for inclusion in the mosaic (col. 5, lines 24-25). Automatic selection partitions the domain of the mosaic into subregions based on the quality of the image (col. 5, lines 24-35). Thus, the quality of different regions of the captured image is analyzed and segments are selected according to the image quality of the segment. Therefore, it would have been obvious for one skilled in the art to have been motivated to include the region selection portion (104) for selection regions based

on the quality of the image as disclosed by Herman in the camera capable of performing image stitching disclosed by Mancuso. Doing so would provide a means for finding appropriate cut lines between neighboring images based on the quality of the image (Herman: col. 5, lines 32-35).

Re claim 6, Herman states that the quality is determined by motion blur (col. 5, line 35). Therefore, since image blur directly relates to image sharpness, the quality is also determined by sharpness.

Re claim 7, Herman states that the quality is determined by resolution (col. 5, line 35).

Re claim 13, Mancuso discloses all of the limitations of claim 12 above. However, Mancuso fails to explicitly state that the image analyzer is operative to determine the quality of plural image segments and select a segment of the region for the compositor according to the image quality of the segment.

Herman discloses in figure 1 a process for forming a mosaic image. The region selection portion (104) of the process for forming a mosaic image includes the selection of subregions of overlapping source images for inclusion in the mosaic (col. 5, lines 24-25). Automatic selection partitions the domain of the mosaic into subregions based on the quality of the image (col. 5, lines 24-35). Thus, the quality of different regions of the captured image is analyzed and segments are selected according to the image quality

of the segment. Therefore, it would have been obvious for one skilled in the art to have been motivated to include the region selection portion (104) for selection regions based on the quality of the image as disclosed by Herman in the camera capable of performing image stitching disclosed by Mancuso. Doing so would provide a means for finding appropriate cut lines between neighboring images based on the quality of the image (Herman: col. 5, lines 32-35).

Re claim 17, Mancuso discloses all of the limitations of claim 16 above. However, Mancuso fails to explicitly state that the image analyzer is operative to determine the quality of plural image segments and select a segment of the region for the compositor according to the image quality of the segment.

Herman discloses in figure 1 a process for forming a mosaic image. The region selection portion (104) of the process for forming a mosaic image includes the selection of subregions of overlapping source images for inclusion in the mosaic (col. 5, lines 24-25). Automatic selection partitions the domain of the mosaic into subregions based on the quality of the image (col. 5, lines 24-35). Thus, the quality of different regions of the captured image is analyzed and segments are selected according to the image quality of the segment. Therefore, it would have been obvious for one skilled in the art to have been motivated to include the region selection portion (104) for selection regions based on the quality of the image as disclosed by Herman in the camera capable of performing image stitching disclosed by Mancuso. Doing so would provide a means for finding

appropriate cut lines between neighboring images based on the quality of the image (Herman: col. 5, lines 32-35).

Re claim 18, Herman states that automatic selection finds appropriate cut lines between images based on location or quality (col. 5, lines 32-35). Therefore, the quality of each of the images is determined and identified.

Re claim 19, Herman states that the quality analysis includes analyzing resolution and blur (col. 5, line 35).

Claims 9-10 and 14 rejected under 35 U.S.C. 103(a) as being unpatentable over Mancuso in view of Hirai et al. US 5,557,366.

Re claim 9, Mancuso discloses all of the limitations of claim 2 above. However, Mancuso fails to explicitly state that the apparatus includes a variable zoom mechanism for varying the zoom setting of the image capture device and a controller for controlling the different zoom settings.

Hirai discloses in figures 1-3 an autofocus camera. The camera includes a power zoom lens (12) with a variable focal length (col. 3, lines 10-16). A CPU (20) has an operation device (20b) capable executing calculations for autofocus and power zoom (col. 8, lines 5-12). Therefore, it would have been obvious for one skilled in the art to have been motivated to include the camera include a power zoom lens as disclosed by

Hirai in the camera capable of performing image stitching disclosed by Mancuso. Doing so would provide a means for varying the focal length of a power zoom lens (Hirai: col. 3, lines 14-16).

Re claim 10, Mancuso states that the camera (100) has an autofocus (col. 7, lines 19-21). Hirai discloses in figures 1-3 an autofocus camera. The camera includes a power zoom lens (12) with a variable focal length (col. 3, lines 10-16). Hirai also discloses a CPU (20) including an operation device (20b) capable executing calculations for autofocus and power zoom (col. 8, lines 5-12). Therefore, the CPU (20) varies a focus setting and a zoom setting in combination.

Re claim 14, Mancuso discloses all of the limitations of claim 12 above. Mancuso also states that the camera (100) has an autofocus (col. 7, lines 19-21). However, Mancuso fails to explicitly state that the apparatus includes a variable zoom mechanism for varying the zoom setting of the image capture device and a controller for controlling the different zoom settings.

Hirai discloses in figures 1-3 an autofocus camera. The camera includes a power zoom lens (12) with a variable focal length (col. 3, lines 10-16). A CPU (20) has an operation device (20b) capable executing calculations for autofocus and power zoom (col. 8, lines 5-12). Therefore, it would have been obvious for one skilled in the art to have been motivated to include the camera include a power zoom lens as disclosed by Hirai in the camera capable of performing image stitching disclosed by Mancuso. Doing

so would provide a means for varying the focal length of a power zoom lens (Hirai: col. 3, lines 14-16).

Contacts

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kelly L. Jerabek whose telephone number is 703-305-8659. The examiner can normally be reached on Monday - Friday (8:00 AM - 5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on 703-305-4929. The fax phone number for submitting all Official communications is 703-872-9306. The fax phone number for submitting informal communications such as drafts, proposed amendments, etc., may be faxed directly to the Examiner at 703-746-3059.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KLJ

TUAN HO
PRIMARY EXAMINER